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2. INTRODUCTION



Welcome to "Sustainability in Practice"

The aim of this educational programme is to educate young people (problem solvers) about sustainability - What are the problems? - What are some possible solutions?

Members of Hockerton Housing Project (HHP) have been running educational field trips to HHP since 2003. These have been very successful with demand often exceeding HHP's capacity. To facilitate more children learning about sustainability this pack now describes how schools and their local eco-centres can use the activities, developed by HHP, independently. It is also a working document helping schools visiting HHP to prepare for the day. Hopefully children will be encouraged to visit their local centres, rather than travelling long distances - the sustainable solution!

The main focus of the experience is an activity based field-trip; either to Hockerton Housing Project (HHP) or a local eco-centre. An in-school introduction to the principles of sustainability is necessary before the trip to obtain the maximum benefit from the experience and another in-school session afterwards to consolidate the learning points.

This resource pack is intended to be used by teachers, parents and facilitators as a guide to help the problem solvers in their quest!



Selections of the following topics are chosen by teachers/pupils:

Water

Food

Waste

Energy

Shelter

Biodiversity

There is one pull out 'page' per topic, plus one for each of the in-school pre- and post- trip sessions in this pack. A mapping exercise is described on a separate sheet. Other sections explain fully the curriculum links (in addition to a brief summary on each topic sheet), funding sources and eco-centre locations, risk assessment and guidance on planning for the trip. The planning sheet is completed jointly with a HHP member or eco-centre facilitator prior to the visit.

Having identified during the in-school session that in our lives we have 'Needs' and 'Wants', and that these often create environmental 'Problems', it becomes necessary for the problem solvers to find 'Solutions'. Some of these may be found at the Hockerton Housing Project or eco-centre visited. Each centre will have its own unique footprint and will have focused on its own sustainable solutions. However, the activities outlined in the pack can be used anywhere, drawing on the local environment to illustrate the solutions that the problem solvers experience.

The story unfolds....





Problem solvers arrive and prepare for their mission.

- Health and safety briefing
- Put on warm clothes and wellies or sunhats and cream.
- Equip with maps, pens, paper and clipboards
- Separate into topic groups of about 10 problem solvers per group



Mapping tour of site

- In topic groups, problem solvers are taken on a tour of the site by a facilitator.
- Each problem solver is given a map on which they mark site features that offer potential solutions relating to their topic.
- On returning to school, each topic group can share their observations to obtain a complete map of the eco-site.



Activities

- Each topic group is taken to an appropriate location on the site to carry out their topic-related activities.
- Unless otherwise requested, the facilitators will choose a selection of the activities, shown on the relevant topic pages, to suit the time of year and weather conditions.
- The aim is to spend as much time outside as possible experiencing the natural environment directly. Some areas will be more naturally sheltered, such as woodland. If the weather is poor, use will be made of temporary structures (e.g. gazebo, tent) or a community building.



Topic Pages

- Each Topic page details the activities available, along with their learning points and curriculum links. It also highlights 'solutions' providing the problem-solvers with actions they might be able to try at home. A brief introduction to the global relevance of each topic is included for those who may need some background information.



Practicalities

- It is essential that problem solvers are prepared appropriately for outdoor weather conditions.
- Groups of about 10 problem solvers with one facilitator and one helper / teacher provided by the school.
- HHP has been assessed by the local LEA which considers the site a safe and suitable place for educational visits. This assessment is recommended for all educational centres. At HHP at least one of the facilitators is First Aid trained.

3a. TOPIC: PRE-TRIP ACTIVITIES (IN-SCHOOL)



Is it a want or is it a need
 Whether you starve or whether you feed
 Is it a need or is it a want
 To do without a television I just can't
 But what I need for sure
 Is to learn so much more

Activity	Learning points	Curriculum Links
<p>Introductions</p> <p>The centre's guide makes an introduction and explains what this learning session is about and how it links to the forthcoming visit.</p> <p>The main focus is to learn about the world in which we live, what we need to live, and whether we will be able to continue to meet those needs in the future?</p> <p>After the trip there maybe another in-school session - a 'debrief' to see what has been learnt and swap learning topics (see 'Post trip activities' on next sheet).</p>		
<p>Needs or Wants?</p> <p>Children organised into groups of 5 or 6</p> <p>Cards are provided with sentences which the students sort into piles of 'Needs', 'Wants' and 'Not sure'.</p> <p>Once complete each group elects an individual to represent the group in a feedback session about their group's decisions. This will help to identify what we really need to live as opposed to want. For example:</p> <p>Needs</p> <ul style="list-style-type: none"> • To have clean air to breathe • To have clean water to drink • To have enough to eat • To have a warm shelter to live in • To have a dry shelter to live in <p>Wants</p> <ul style="list-style-type: none"> • To have a foreign holiday at least once a year • To have a television • To have electric lighting • To have a car • To have countryside around us 	<p>A. How we meet our needs in daily life and the impact this has on the environment</p> <p>B. What are people's basic needs to just survive, e.g.:</p> <ul style="list-style-type: none"> • Air • Water • Warmth • Food <p>B. What are people's wants, e.g. to be:</p> <ul style="list-style-type: none"> • Comfortable • Social • Self-fulfilled <p>C&D. Use of group work and discussion to draw conclusions</p>	<p>A. Science/Sc1 Scientific Enquiry, 1a(Ideas and evidence in science)</p> <p>B. Science/Sc1 Scientific Enquiry, 2b (Investigative skills)</p> <p>C. English/EN1 Speaking & Listening, 3a , 3b (Group discussion & interaction)</p> <p>D. English/EN1 Speaking & Listening, 10b, 10c (Group discussion & interaction)</p>



Activity	Learning points	Curriculum Links
<p>What is this eco-centre?</p> <p>The students are briefed on the trip; what it is, why it exists and what they will be doing there.</p> <p>The exercise of needs and wants leads the students to discover that these generate environmental problems which we all need to help solve. The centre is a place where people are already trying to find solutions to environmental problems. The students are told that they are going to visit the centre so that they can become 'problem-solvers' too and learn how to live more sustainably. They are informed that they:</p> <ul style="list-style-type: none"> Will be split into topic groups Will go on a mapping tour of the site, equipped with a blank map, completing the areas that relate to their particular topics. Perform topic related practical activities as problem solvers and report back their findings to the rest of the class on their return to school. <p>The briefing is supported by either a video or a slide show.</p>	<ul style="list-style-type: none"> A. Become aware of the centre and the reason behind its existence A. What will take place on their visit? B. General environmental issues, including global warming and depletion of fossil fuels 	<ul style="list-style-type: none"> A. English/EN1 Speaking & Listening, 9a, 9b (Listening) B. Geography/ Knowledge, skills and understanding, 5a, 5b (Knowledge and understanding of environmental change & sustainable development)
<p>It is anticipated that teachers will facilitate 'What's Your Problem', after the 'Needs and Wants' exercise and prior to the visit to HHP - Teachers notes are available from HHP.</p>		
<p>What's Your Problem?</p> <p>Students are split by their teachers, into topic groups of about 10 'problem solvers' each to consider in more detail the problems created from meeting our needs. Each group will be investigating these different topics at the centre.</p> <p>The objective of this exercise is for each topic group to know and record at least one problem that they can search for solutions for during their visit.</p> <p>After a re-cap of 'Needs and Wants' the teacher uses NEED/FACT/PROBLEM/SOLUTION sheet to get the students to think about and discuss potential environmental problems and their impact. This is done for each topic they are going to cover during the visit.</p>	<ul style="list-style-type: none"> A. Establish links between actions people make to meet their needs and problems they create (cause and effect) B. Greater understanding of how people can damage the environment C. Use of group discussion to collect information and draw conclusions. <ul style="list-style-type: none"> • Children find out which topic group they will be in. 	<ul style="list-style-type: none"> A. Science/Sc1 Scientific Enquiry, 1a (Ideas and evidence in science) B. Geography/ Knowledge, skills and understanding, 5a (Knowledge and understanding of environmental change and sustainable development) C. English/EN1 Speaking & Listening, 3a, 3b, 10c (Group discussion & interaction)

3b. WHAT'S YOUR PROBLEM?

F O O D	NEED/WANT	FACT	PROBLEM	SOLUTIONS
	1. We want to eat food we like whatever the time of year.	1. The average meal travels 2000 miles to your plate. These are known as 'food miles'.	1. The transportation of food causes huge amounts of pollution.	1. Grow your own food, buy locally produced food, and eat seasonally.
	2. We want food that is safe to eat.	2. 40% of vegetables and fruit contain pesticide residues.	2. Modern farming uses pesticides which can leave residues in food.	2. Use organic methods, no chemical, pesticides or fertilisers.
	3. We need fresh food to stay healthy.	3. The average orange bought from a supermarket contains only 10 mg of vitamin C compared 70mg from a fresh orange.	3. Because food is picked before it is ripe the food we buy from supermarkets is often not as nutritious as we think it is.	3. Pick food when it is ripe and eat while still fresh as possible. Much easier if you grow your own.
W A T E R	NEED/WANT	FACT	PROBLEM	SOLUTION
	1. We want water to come out of the tap whenever we turn it on.	1. A steadily dripping tap can lose as much as 31000 litres in a year (equivalent to a small swimming pool).	1. We tend to forget that water is a valuable resource.	1. Make sure you only use what you need and there are no dripping taps.
	2. We need clean water to drink.	2. In 1993 only 79% of water supply zones complied with the quantity of lead allowed in water. ⁽¹⁾	2. Sewage and chemical leaks pollute water.	2. Filter your own rainwater. Be careful not to pollute water.
	3. We don't want to pay a lot of money for water.	3. We lost 25% of treated water through leaks in 1995. ⁽¹⁾	3. Because our water often travels huge distances, much of it is lost from leaks.	3. Collect your own rainwater from a nearby source e.g. your roof.
W A S T E	NEED/WANT	FACT	PROBLEM	SOLUTION
	1. We need space to build houses and live.	1. 40% of rubbish from our homes could be composted.	1. Natural sources of peat compost are running out	1. Compost your own organic waste.
	2. We want a clean and healthy environment to live in.	2. Every year we produce 27 million tonnes of rubbish from our homes.	2. There is much unnecessary packaging and some is dropped as litter.	2. Buy vegetables and fruit without packaging and use your own re-usable bag. Don't put anything toxic in a bin or down the toilet.
	3. We want our rubbish to be taken away.	3. 75% of contents of the average dustbin can be recycled.	3. We are over filling our landfill sites with valuable items.	3. Reuse and recycle as much as possible. At the Hockerton Housing Project dustbins are emptied once a month.



S H E L T E R	NEED/WANT	FACT	PROBLEM	SOLUTION
	1. We need a dry shelter to live in.	1. Leaky roofs lead to unhealthy living conditions.	1. Poorly built roofs leak.	1. Ensure buildings are waterproof for a long time.
	2. We need warm houses to live in.	2. We use eight times more energy heating a house than we use for cooking. ⁽²⁾	2. We lose heat via gaps in and around windows and through the roof.	2. Insulate houses well and stop drafts.
	3. We need space to build new houses.	3. The government predicts we need 4 million new homes.	3. Building homes uses a lot of natural resources, and takes up a lot of countryside.	3. Build homes with less impact on the environment, e.g. a grass roof.
E N E R G Y	NEED/WANT	FACT	PROBLEM	SOLUTION
	1. We need to keep warm in our homes.	1. In a typical UK home over half of our energy requirement is for heating. ⁽³⁾	1. Energy for central heating creates a lot of air pollution and is causing global warming.	1. Reduce the need for heating by keeping out the drafts and insulating well.
	2. We want electricity to power TV's, lights etc.	2. If every home in the UK replaced a 100W light bulb with a 20W low energy bulb, the energy saved could close a Power station.	2. Fossil fuels have a limited supply on Earth and will eventually run out.	2. Don't waste energy. Generate electricity from renewable sources, e.g. sun and wind - These will never run out.
	3. We want to travel by car.	3. In the UK we used 21.4 million tonnes of petrol in 2000. ⁽⁴⁾	3. Cars are easy, quick and cheap to use.	3. Walk and cycle more or use renewable energy to fuel cars.
B I O D I V E R S I T Y	NEED/WANT	FACT	PROBLEM	SOLUTION
	1. We need other animals and plants to survive.	1. In Europe, at least 40 percent of bird and butterfly species are under threat and some 800 plant species.	1. If one species is lost this has an impact on other species around it.	1. Have respect for all wildlife and where they live. Don't buy products that might be linked to harming wildlife.
	2. We want to enjoy the wonders of nature.	2. Many song-birds are under threat now so that we hear their singing far less.	2. Modern farming has made it very difficult for many wild animals and plants to survive.	2. Reduce chemicals for food growing. Keep hedgerows.
	3. We and other animals need space to live.	3. There are 15 million gardens in the UK - if these were all managed for wildlife it would provide a nature reserve five times the size of greater London. ⁽⁵⁾	3. Building of new homes and roads are all reducing the space for wildlife.	3. Make gardens friendlier for wildlife as well as for us.

References

- (1) Safe to Drink. Julie Stauffer Centre for Alternative Technology 1996 ISBN 1 898049 19 X
- (2) The New Autonomous House, Brenda and Robert Vale Thames and Hudson 2000 ISBN 0 500 28287 0
- (3) Energy Systems and Sustainability G Boyle, B Everett and J Ramage, Oxford University Press 2003
- (4) Managing Energy Demand G Boyle, The Open University 2003 ISBN 0 7492 5393 2
- (5) Nottingham Wildlife Trust

3c. POST-TRIP ACTIVITIES (In-School)

These activities maybe facilitated by a teacher or centre guide

Activity	Learning points	Curriculum Links
<p>What's your solution?</p> <p>The objective of this activity is for each group to share their experiences and solutions and agree an action plan.</p> <p><u>Activity 1 (Post visit feedback)</u></p> <p>After a re-cap of the visit the students are reformed into their topic groups. Each group informs the other groups about their time including topic activities and the mapping exercise. The students think about what they did and what they found out. The session involves group work and student representatives feeding back ideas as a presentation. The remainder of the class are encouraged to ask questions.</p> <p><u>Activity 2 (Developing solutions)</u></p> <p>After a recap of some of the sustainable solutions found at HHP the students use the problems recorded in the pre visit in-school activity and identify potential solutions. The teacher discusses with students what actions they can take in every day life. (Refer to "Problem solvers actions" on Topic pages for ideas)</p> <p>Each child is encouraged to adopt one idea and put it into action at home or at school. This could be known as their 'Pledge'</p> <p><u>Activity 3 (The complete picture)</u></p> <p>The students share information on their maps. The teacher uses an acetate of a blank HHP map on an overhead projector and representatives from each topic group draws onto the acetate some of their findings based on the maps created on their trip.</p> <p>A complete picture of all topics is created.</p>	<ul style="list-style-type: none"> A. Making comparisons in their observations with others B. Students learn what other groups did on their visit to HHP C. Some understanding of sustainable solutions that meet our needs. C. What action can practically be taken by students at home and at school? D. Developing maps and understanding of HHP site layout 	<ul style="list-style-type: none"> A. Science/Sc1 Scientific Enquiry, 2i (Investigative skills) B. English/EN1 Speaking & Listening, 3a, 3b, 10b, (Group discussion & interaction) B. English/EN1 Speaking & Listening, 9a, 9c (Listening) C. Geography/ Knowledge, skills and understanding, 5a, 5b (Knowledge and understanding of environmental change and sustainable development) D. Geography/ Knowledge, skills and understanding, 2c (Geographical enquiry and skills)



The Hockerton Housing Project Map

KEY	
Path
Road/fields	—
Slopes	+++++
Parking	▨
Bike shelter	▩

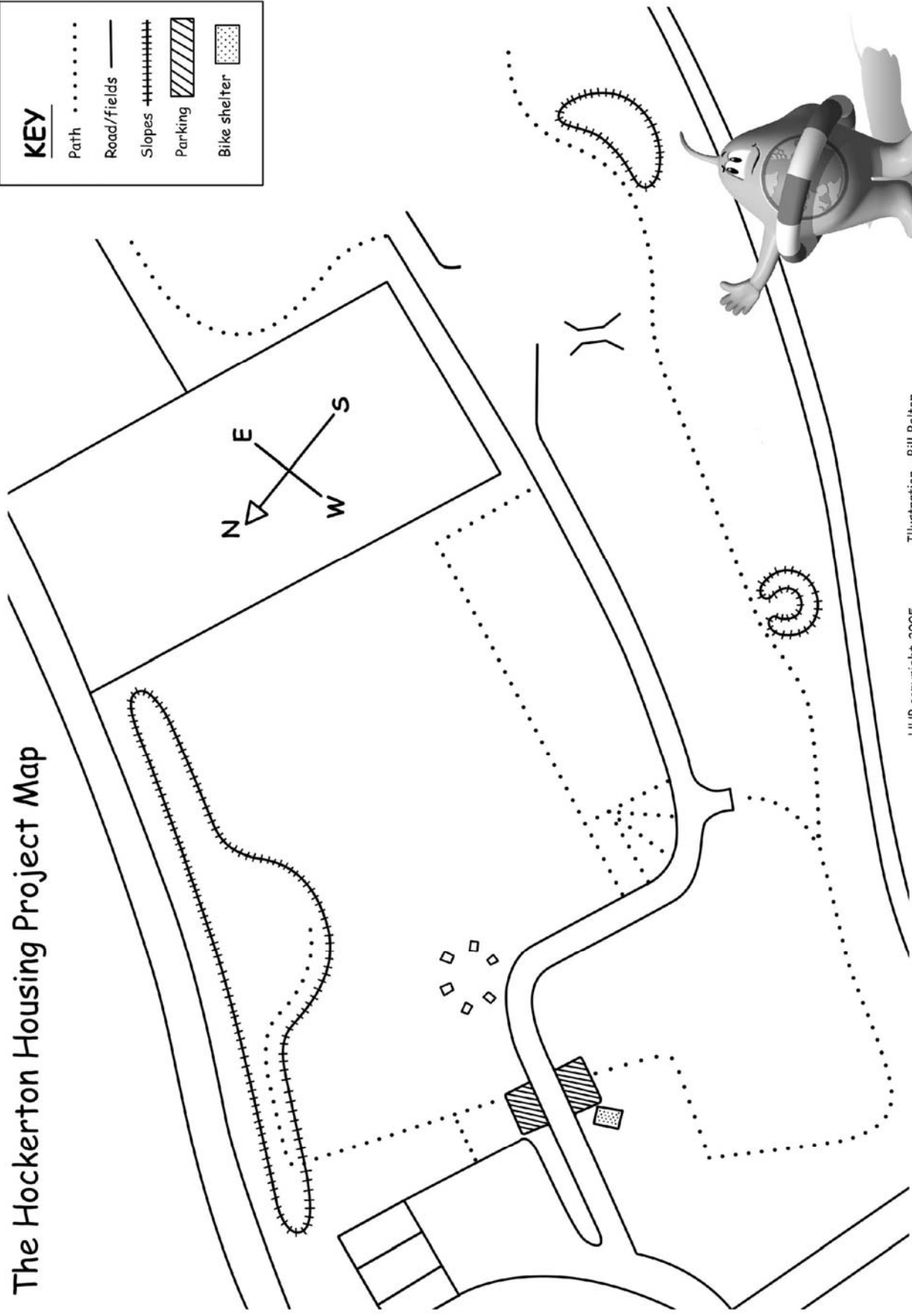


Illustration - Bill Belton

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